Flag Varieties and Schubert Calculus

Jake Levinson

(Simon Fraser University)

An introduction to flag varieties and the combinatorics of Schubert polynomials, Schur polynomials and Young tableaux.

 I will plan to discuss a combination of the following:

    * the Schubert stratification of the complete flag variety (and perhaps a shorter discussion of the Grassmannian)

    * the cohomology ring of the flag variety, in terms of the Schubert polynomials. Monk's rule.

    * the Schur polynomials -- Pieri rule, Littlewood-Richardson rule.

    * some open problems.